

## Claims

[c1]

What is claimed is:

1. A pointing device electrically connected to a computer for controlling movements of a cursor on a display device of the computer, the pointing device comprising:

- a housing;
- a pointing unit installed inside the housing for generating pointing signals to control movements of the cursor;
- a rollable device for generating rolling signals;
- a light source for illuminating the rollable device; and
- a control unit for controlling the pointing device;

wherein when the computer transmits a state signal to the pointing device, the control unit controls the light source to determine an illumination mode of the rollable device according to the state signal.

[c2]

2. The pointing device of claim 1 wherein the rollable device comprises a transparent material.

[c3]

3. The pointing device of claim 2 wherein the rollable device is a rolling wheel.

[c4]

4. The pointing device of claim 3 wherein the rolling wheel comprises a roller and a ring, the ring surrounding an outer circumference of the roller and adapted to enable a user to roll the rolling wheel while contacting the ring, the ring being made of a transparent material to allow the light provided by the light source to pass through the ring.

[c5]

5. The pointing device of claim 4 wherein the roller comprises a reflecting surface for reflecting the light provided by the light source to enhance the brightness of the rolling wheel.

[c6]

6. The pointing device of claim 3 wherein the rolling wheel is made of a transparent material to allow the light provided by the light source to pass through the rolling wheel.

- [c7] 7. The pointing device of claim 3 wherein the light source is positioned inside the rolling wheel, and the pointing device further comprises a support and an electrical conduction device, the support supporting the rolling wheel, the electrical conduction device positioned between the support and the rolling wheel to supply power to the light source.
- [c8] 8. The pointing device of claim 1 wherein the rollable device is a trackball.
- [c9] 9. The pointing device of claim 1 wherein the light source is positioned adjacent to the rollable device.
- [c10] 10. The pointing device of claim 1 wherein the light source comprises at least one light-emitting diode.
- [c11] 11. The pointing device of claim 1 wherein the rollable device is adapted to control scrolling of a window shown on the display.
- [c12] 12. The pointing device of claim 1 wherein the computer further comprises a driver for detecting a state of the computer and transmitting a corresponding state signal to the pointing device.
- [c13] 13. The pointing device of claim 12 wherein the computer further comprises a user interface program for establishing an illumination setting for the illumination mode of the rollable device, the driver transmitting a corresponding state signal to the pointing device according to the illumination setting.
- [c14] 14. The pointing device of claim 12 wherein the driver detects if an window of the computer supports a scrolling navigation function, and then transmitting a corresponding state signal to the pointing device.
- [c15] 15. The pointing device of claim 12 wherein the driver detects if a window in which the cursor is located supports a scrolling navigation function, and then transmits a corresponding state signal to the pointing device.
- [c16] 16. The pointing device of claim 12 wherein the driver detects if the

computer has received new or unread e-mail, and then transmits a corresponding state signal to the pointing device.

- [c17] 17. The pointing device of claim 12 wherein the driver detects if the computer has received new or unread e-mail during a predetermined period, and then transmits a corresponding state signal to the pointing device.
- [c18] 18. The pointing device of claim 1 further comprising at least one button; wherein pressing of the button in a predetermined manner when the rollable device is illuminated causes the control unit to transmit a feedback signal to the computer.
- [c19] 19. The pointing device of claim 18 wherein the computer further comprises a driver, with the driver controlling the computer according to the feedback signal.
- [c20] 20. The pointing device of claim 18 wherein when the rollable device is pressed downwards, the button becomes activated.
- [c21] 21. The pointing device of claim 19 wherein the computer further comprises a user interface program for setting functions of the button, the driver controlling the computer according to both the feedback signal and set button functions.
- [c22] 22. The pointing device of claim 19 wherein when the computer receives new or unread e-mail followed by a pressing of the button in a predetermined manner, the driver runs an e-mail program to open the new or unread e-mail.
- [c23] 23. A pointing device adapted to electrically connect to a computer for controlling movements of a cursor on a display device of the computer, the pointing device comprising:  
a housing;  
a pointing unit installed inside the housing for generating pointing signals adapted to control movements of the cursor;

a rolling wheel for generating rolling signals; and  
a light source for providing light to illuminate the rolling wheel.

[c24]

24. The pointing device of claim 23 wherein the rolling wheel is made of a transparent material to allow the light provided by the light source to pass through the rolling wheel.

[c25]

25. The pointing device of claim 23 wherein the rolling wheel comprises a roller and a ring, the ring surrounding an outer circumference of the roller and adapted to allow a user to roll the rolling wheel while contacting the ring, the ring being made of a transparent material to allow the light provided by the light source to pass through the ring.

[c26]

26. The pointing device of claim 25 wherein the roller comprises a reflecting surface for reflecting the light provided by the light source to enhance the brightness of the rolling wheel.

[c27]

27. The pointing device of claim 23 wherein the rolling wheel is adapted to be used to control scrolling movements of a window shown on the display.

[c28]

28. The pointing device of claim 23 wherein the light source is positioned adjacent to the rolling wheel.

[c29]

29. The pointing device of claim 23 wherein the light source is positioned inside the rolling wheel, and the pointing device further comprises a support and an electrical conduction device, the support supporting the rolling wheel, the electrical conduction device positioned between the support and the rolling wheel to supply power to the light source.

[c30]

30. The pointing device of claim 23 wherein the light source comprises at least one light-emitting diode.